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EDUCATIONAL NEWS AND EDITORIAL COMMENT

Valuable School Material in Government Publications

The Bureau of Education has issued a monograph entitled *Teaching Material in Government Publications*. In the introduction to this monograph Commissioner Claxton says:

> One of the greatest needs of our elementary and secondary schools, both public and private, is the need for suitable material to supplement the meager outlines and brief statements of the textbooks in geography, history, hygiene, nature-study, agriculture, and other subjects. This need is greatest in country and village schools, which are without access to public libraries. Among the publications of the federal and state governments, reports, bulletins, circulars, and special documents are thousands of pages of matter of highest value for this purpose. Frequently these are published under titles that in no way indicate their fitness for this use.

The monograph makes an effort to place before the teachers of the country this large body of material. One finds the general divisions of the monograph under such heads as agriculture, geography, nature-study, hygiene, history, economics, including domestic economy. If one turns to the details he finds references which show where one can secure series of maps and geological studies of different parts of the United States. Under history one finds the accounts of some of the Indian tribes, accounts of the big trees of California, together with the historical events which parallel the climatic conditions indicated by the development of these trees at different ages. There are studies of the boundaries of the United States. Under hygiene there is a long list of subjects dealing with the uses of milk, dust preventives, etc.

These chance examples selected from the list of titles presented in the monograph will make it clear to every teacher that there is information of great value in public documents. In some cases the monographs can be secured without charge. In other cases the documents can be secured at a relatively very slight cost. Any teacher who makes application for this monograph will receive it as long as the supply lasts.

The Vermont State Survey

Vermont is the first state to have a comprehensive state-wide investigation of its school organization. The committee which was appointed about a year ago undertook to make an examination not only of the higher institutions, but also of the elementary schools of the state, together with the relation between these different members of the school system. The following extract from the *Journal* of Montpelier, Vermont, sets forth the results which have just been published:

> The State Commission to Investigate the Educational System and Conditions of Vermont is distributing through the press Part II of the report made to it by the experts of the Carnegie Foundation based upon their recent educational survey. Part I, which was given to the public the latter part of December, attracted wide attention, as it deserved to do, and was read with keen and sympathetic interest by all desirous of seeing the schools of the Green Mountain State attain their greatest possible degree of efficiency and success. The comprehensive and accurate view of educational conditions as they actually exist, which this report furnishes, is of the highest value and its recommendations and suggestions may well be given the best thought of every friend of the public schools.
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> In the part of the report made public at this time there is contained a summary in tabular form of the conclusions reached which relate to general policies, legislative measures, and the State Board of Education's administrative policy. In Section 3 of Part II elementary schools are dealt with. The experts explain that the conclusions reached are based almost entirely on impressions gained through visits to 200 schools, observation of the work of 220 teachers, from a study of the registers in all schools in 202 towns, from printed reports of the state and towns, and from interviews.
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> It is clear, however, that the investigation of the experts was even more searching than shown by this summary, for they say in the report "a form calling for certain information regarding their training, salary, and experience was sent to each elementary-school teacher in the state, and 200 replies were received and studied. Finally, there were the suggestions of nearly 1,000 representative citizens sent in response to inquiries from the commission."

Discussing the state course of study the Carnegie experts say that, though the course given in the *Teachers' Annual* is not essentially different from most other state courses, the fact that it is not followed in any of the schools visited to any considerable extent indicates it is not suited to their needs. It is pointed out that this course of study recognizes to a small extent only the varying abilities of children and that here as well as elsewhere pupils who complete the school course are unable to do satisfactory work in positions in which the use of arithmetic and English is required.

The course in English, it is explained, is based on a supposition "that the child will enter the high school and that the work given is that which is best calculated to prepare for that end. The fact that only a few of these boys and girls will ever enter high school is constantly ignored." As to the course in arithmetic the experts declare "the situation is but little better."

It will be seen in this part of the report of the experts, as it was made plain in the part that preceded it, that the aim has been to suggest changes that will provide the most practical education for the children of Vermont, the kind of education that will give them the greatest degree of efficiency in the place in life they are destined to occupy.

The *Morning Journal* has heretofore expressed the belief that the recommendation of the Carnegie foundation experts that state subsidies be withdrawn from institutions of higher learning and devoted to the strengthening of the elementary and secondary schools, in which 95 per cent of the children of Vermont obtain their entire education, will meet the hearty approval of an overwhelming majority of the citizens of the state. It is as strongly convinced that the recommendations concerning elementary schools will be given similar widespread indorsement.

More School Surveys

School surveys are the order of the day. Laymen and teachers recognize the value of such studies of the school situation. The following report, which is reproduced from the *Times* of Leavenworth, Kansas, shows how general is the interest in this type of inquiry:

Leavenworth will set a good example to the less progressive cities of the state and give this city a position to render educational aid to the state as the result of the school survey which will be held the second and third weeks in March. That was the opinion given yesterday by Dr. W. S. Monroe, of the School of Education of the Emporia Normal, who is to have charge of the survey.

W. W. Charters, of the School of Education of the University of Missouri, Mr. Monroe, W. R. Smith, of the sociology department of the Normal, and Miss Minnie E. Porter, of the English department, came to Leavenworth yesterday morning for the purpose of gathering data for foundation of the survey work. The observations will be continued today. Yesterday the

educators did not visit any of the institutions, simply driving about the city, paying particular attention to the educational needs of Leavenworth.

OUTLINES PURPOSE

At the high school yesterday afternoon short talks were delivered by Dr. Monroe, Dr. Smith, and Miss Porter to the teachers of the city. Dr. Monroe outlined the purpose of the survey and said that it would show the educational needs of the community, and make a graphic presentation of the present efficiency of the system. He said that it was impossible to have ideal education without all agencies working together.

Miss Porter outlined to the teachers the relation of the child in the classroom to the organized life of the school and the world of men and affairs. Dr. Smith said that the school survey is yet in its infancy and that this city should be complimented for having the first in the state.

A fairly large crowd was in attendance at the high school last night to listen to a talk delivered by W. W. Charters. The Missouri University man proved an interesting talker. He explained the purpose of the survey and forecasted that much good would result if the teachers and patrons of the school lent the proper co-operation in the movement.

Another school survey which has been completed is reported by the Bureau of Education in its *City School Circular No. 26* in the following terms:

The board of education at Grafton, West Virginia, a city of 8,000 population, not being satisfied that they were expending the school funds to the best advantage, invited three practical school men of their own state to make a survey of the schools of that city, and to make a definite report regarding the needs of the schools and the best method of economizing on the funds available so as to provide for these needs.

The committee, composed of Dr. J. N. Deahl, head of the department of education in the State University; Mr. Joseph Rosier, superintendent of schools, Fairmont; and Mr. Otis Wilson, superintendent of schools, Elkins, were asked to make the survey, and accepted on condition that their report should in no way affect the standing of the superintendent. The board assured these men that the superintendent was leaving, and that it was desired to have an investigation before the election of a new superintendent.

The investigation covered the following points: educational needs of the community from an industrial standpoint, the professional training and equipment of the teachers employed, the course of study in use in the schools, the methods of teaching and the plan of school organization, methods of administration as related to the assignment of teachers, possible consolidation of departments and grades, current expenditures, the purchase of supplies, and high-school equipment.

The committee made no attempt to discuss theories, but recommended among other things that a co-operative industrial course similar to that at

Fitchburg, Massachusetts, be instituted; that night classes be formed for the boys and girls employed in the glass factories; that the present organization of the high-school work into four curricula should be made less restrictive; that the grades below the high school be reorganized so that the average enrolment for each teacher would be between 30 and 40 pupils and that the money saved be applied to the employment of instruction of manual training and domestic science; that the grade work could be improved by giving less time to the formal study of United States history, geography, physiology, and arithmetic, the time assigned for arithmetic being excessive.

The Powers of the Board of Education

Several controversies have recently brought to the front the question of the relative positions in matters of school administration of the school superintendent and the board of education. In many of these discussions it has been assumed by the board of education that it has supreme control of the school system. It is therefore interesting to see the problem of the school board's functions brought out from an entirely different point of view. The following news item, taken from the *Gazette* of Schenectady, New York, calls attention to the fundamental fact that the functions of the school board have not been clearly defined:

The situation in this city, with reference to the administration of the school system, presents some very awkward and very undesirable features and a condition of affairs exists in regard to it that should be changed.

The public assumes, generally speaking, that all matters in relation to the schools are within the jurisdiction of the board of education. Actually, however, such is not the case and the limitations imposed upon the board by amendments to the supplemental city charter—the charter itself dealing very little with educational matters—tend to handicap those nominally responsible for the direction of this exceedingly important branch of municipal affairs.

The board of education, it is true, prescribes courses and employs teachers and in general has authority over the teaching and the teachers. But, strangely enough, it has no authority over the school janitors, who are under the control of the commissioner of public works. Hence in the simple matter of even maintaining a suitable temperature in a schoolroom not only does the principal of a school theoretically have no power to issue orders to the janitor of the building, but not even the superintendent of schools or the board of education itself has such authority. The impracticability and the foolishness of such an arrangement is plainly apparent.

When it comes to new school buildings, the board may determine where they shall be located, but the authority to choose the plans for them is given to the city engineer. The board has not even the authority to compel the

making of repairs. In reality it can only suggest and advise that they be made. It does not even have charge of the cleaning of the school buildings.

There is no system of bookkeeping for the board outside the comptroller's office. When it wants to know the condition of its finances, just how much it has expended and how much it has remaining to expend, it must go to the latter to learn the condition of affairs.

There is still another factor in the situation. The superintendent of schools does not change with a change of administration. Neither does the personnel of the board of education, entirely; that is to say, there are enough hold-over members to make it a continuous organization, and its policies and plans are continuous ones. On the other hand, the superintendent of public works and the city engineer, both of whom have charge of different matters relating to the school system under the present arrangement, nearly always change with every change in the administration. The incumbent of either of these offices may modify or overturn the plans of his predecessor. Furthermore, it has a tendency to bring politics into the school system.

The board is quite justified in feeling that this system is unwise and that it is unfairly handicapped. Certainly such a method of conducting the affairs of the school system does not tend to promote efficiency. On the contrary, it imposes difficulties and obstacles in the way of a satisfactory administration.

The necessary legislation to change it and to give the board control of the schools in fact as well as in theory should be sought. It will, if secured, place the entire matter on a more practical and common-sense basis.

This clipping illustrates perhaps more clearly than the disputes between superintendents and boards of education the fact that our organization of school systems in this country is by no means completely worked out. Perhaps this item is a better text for school men to preach from than their own personal disputes with boards of education. This text certainly furnishes good ground for the contention that we ought to have a final and expert re-examination of the whole problem of the functions of the board of education.

The following report, clipped from the *Free Press* of Milwaukee, Wisconsin, indicates a type of extension of the public-school system which may help to solve one of the gravest city problems:

School for the Unemployed

Kenosha has opened a school for the unemployed. There are no limitations of age, color, or nationality. The Deming School, one of the smaller buildings of the city, has been partially given over and in a week twenty students have been enrolled. Nearly all are men and women who have been employed as machine operators in the factories.

It is planned to offer something which will be of distinct benefit to every student. Some of the men, who have been driven from the bench in machine-shops, are studying the common branches of "readin, 'ritin', and 'rithmetic," while at an adjoining bench another man is learning the rudiments of book-keeping and commercial arithmetic.

Typewriters have been installed and some of the students are studying stenography. It is probable that some of these men and girls will never return to the bench, but will be graduated into office positions.

The students are given thirty hours of schooling each week and some have shown so high an appreciation of the new school that they are also attending the evening schools of the city.

The following editorial, clipped from the *Herald* of El Paso, Texas, states briefly the case for compulsory education as it is viewed in one of the progressive cities of Texas:

Compulsory Education in Texas

Compulsory education in Texas is being talked of again. Texas is one of the very few states not having such a law, the others all being in the south. It is time that Texas, with her enormous resources for public education, should provide school facilities for all her children, and compel them to come in.

El Paso educators have long wanted such a law. If the state legislature again refuses to enact a general law to this effect, it is probable that an effort will be made to procure the passage of a special act applying to this city alone, as an independent school district.

Compulsory education in El Paso, enforced, would mean between 2,000 and 3,000 more children in school than are now attending. Provision would have to be made for them, in rooms and teachers. But our failure to provide schooling for these thousands of children is a kind of failure that curses this community in many different ways. It is costly every way, far more costly than the schools would be; it is a menace to the health and welfare of the community; it greatly curtails our producing power as a city; and it sets us back in the race of the cities for industrial and commercial development.

The following quotations are from an article published in the *New York Tribune:*

Visiting Teachers in New York

The visiting teacher was added to the machinery of the New York public schools in 1906 by private charity, under the auspices of the Public Education Association. The success of the eight teachers they have maintained since then has been so great that it is now proposed to add two more to the force. For this purpose an association known as the Visiting Teachers' Auxiliary to the Public Education Association has been formed within the last few days.

One of the members of this association in an interview discussed the functions of these visiting teachers:

What do they do? Well, they discover that very often the "stupid" child is not stupid at all, but merely misplaced. I remember one Tommy, who had been given up by several teachers as hopeless. He simply could not learn his lessons, and they were about to advise that he be sent to an institution for the feeble-minded when the visiting teacher heard of him. She went to his home, and found the family admiring a little baby's chair the boy had made from pieces of old boxes. It was an excellent piece of work, and the visiting teacher realized at once that the boy was a mechanical genius. She recommended that he be transferred to a school where he could study carpentry. This was done, and now this Tommy is a shining member of society.

Sometimes the visiting teacher finds that the fault lies not with the school or the child, but with the home. It may be that he has no proper place to study. Then the neighborhood is searched until a quiet room is found, either in a settlement or in a public library. Sometimes the child seems dull and listless in school not because he is feeble minded, but because his sleep is impaired. Perhaps his mother has sewing to do late into the night, and must work in the one little room where Tommy is trying to sleep; or perhaps his diet is composed largely of tea and coffee, and he does not sleep soundly. In this case his mother is taken aside and instructed in the health and feeding of children.

Women in the Cincinnati and Philadelphia Schools

The *Cincinnati Enquirer* reports that the small board of education of the city of Cincinnati adopted unanimously the recommendations of Superintendent Condon in which sweeping changes were recommended in the rules of the Cincinnati school system with regard to the employment of women. Superintendent Condon made the following recommendations with regard to the salaries of women:

While lack of funds will prevent any favorable consideration of the subject at this time, yet that I may make my position perfectly clear I wish to say that when expenses will warrant such a move I propose to recommend to the Union Board that they amend the regulations which discriminate in the matter of salary between men and women holding positions of similar responsibility and performing work of the same grade with the same degree of success. I cannot reconcile such a discrimination with my idea of justice.

Furthermore, Superintendent Condon recommends that the board revise its rule which provides that "any female teacher shall forfeit her position by marrying during the term of her appointment." Superintendent Condon further recommends that teachers be chosen for the high school even if they are not university gradu-

ates, provided they have shown themselves to be successful in their school work. The list which has formerly been drawn upon for high-school appointments is made up exclusively of university graduates. Superintendent Condon devotes several paragraphs to his statement that he is entirely in favor of a university education for teachers, but he believes that success in teaching should not be rated below academic training.

These sweeping changes in the attitude of the board of education if they are really made operative will furnish another evidence of the movement in American schools in the direction of a more complete recognition of women. A report comes also from Philadelphia to the effect that the women teachers of that city have secured a favorable vote in that the women are now to be placed upon the same list as the men so far as their eligibility for appointment to principalships is concerned. Formerly two distinct lists were kept, one of the men and one of the women. From this time on the appointments are to be made without discrimination.

Outside Credits Supervised by Schools

The topic of school credit for work done at home has several times been the subject of comment in the *Elementary School Teacher*. In the January number attention was drawn to the difficulty of organizing such work in a way to justify school credit and also in a way to justify the expenditure of the energy of the school in this direction. That note has brought from several quarters reports of the success of plans of the type under discussion. In some cases the courses that have been favorably reported are courses in music. These are especially successful when conducted in connection with high-school organization. The following comments from Superintendent Shideler, of Junction City, indicate the success of that type of work in one city:

> I wish to state that the plan of the outside study of music is very successful on the part of the high school, as it meets a long-sought need in this community. It is successful on the part of the private teacher, as it shifts the responsibility somewhat and encourages her pupils to do regular work. The parents are satisfied in that it compels the pupils to practice and also to keep up with their lessons in order to conform to the requirement of reporting to the superintendent's office, and thus receive high-school credit. The pupil is pleased, since she receives high-school credit for work which she would like to complete regardless of such credit. In truth, the plan is meeting with more

success than we had anticipated. Six private teachers are instructing pupils outside of school in piano, voice, violin, and cornet, for which high-school credit will be granted.

The plan is successful in that it measures in quality and quantity with any other high-school subject, it affords training in instrumental music where high schools cannot offer it, and the supervision is entirely within the control of the school authorities.

The following from Spokane, Wash., also gives the opinion of the community with regard to the experiment being tried in that state:

So popular has become the system of giving school credits for chores and household work performed by the pupils of Spokane County at their homes that County Superintendent E. G. McFarland is making a second distribution of the credit blanks, and has ordered 100,000 of them printed to supplement a 5,000 order which was exhausted in one month from the time the plan was started. Mr. McFarland states that 80 out of the 176 schools of the county are now giving this credit and that new ones are adopting the plan each week.

"The teachers say the system has greatly aided their work," said the superintendent, "and the parents are delighted with it. Instances have come to our attention where children who could hardly be compelled to do any work before now eagerly perform the tasks around their homes and take the credits to school to get the monthly half-holiday for perfect records. Several schools have reported that not a pupil was tardy or absent during the month."

The system allows one or two credits for certain listed home tasks performed on school days. The perfect month's record consists of five such tasks performed every day, making 25 for each school week and 100 for each month. In conjunction with the work, which must be done cheerfully, not under compulsion, the pupil must be at school every day and never be tardy. Parents fill out the blanks according to the excellence of the child's performance.

At the end of the term 10 credits are given on examination, so that a pupil who has done the outside work and has never been tardy or absent will have a few credits to make up any deficiency in examinations.

Another feature that Mr. McFarland is now extending is the giving of diplomas to each perfect pupil making a perfect year's record. He says that one thousand such diplomas will have to be issued if the interest continues.

The success of these two experiments in outside credit does not in any wise modify the opinion of the writers of the January editorial. The general question which was raised and is here reiterated is the question of the organization of this work in such a way as to make it a genuine part of the school activity. It should be recognized that the school activity is not synonymous with home work and that there is grave danger of distracting students from the legitimate problems of school work unless both kinds of work are carefully planned and made genuinely educative.

SOME FACTORS AFFECTING INDUSTRIAL EDUCATION

LEONARD P. AYRES, PH.D.
Director, Division of Education, Russell Sage Foundation

During the past six months the Division of Education of the Sage Foundation has been conducting a series of studies with the object of securing a fact basis for some parts of our thinking and acting with regard to vocational education and vocational guidance. One of our investigations consisted of a study of certain facts concerning all of the thirteen-year-old boys in the public schools of 78 American cities and the fathers of the boys. The total number of cases amounted to 22,027. We chose the thirteen-year-old boys because those are the ones that are in the last year of compulsory school attendance. Soon large numbers of them will leave school to enter money-earning occupations.

Thirteen-year-old boys in each grade from kindergarten through high school.—The first fact that we learned about these boys was that they are scattered through all the grades of the school course from the kindergarten to the last year of the high school.

More significant still, we found that one-half of them were in the sixth grade or below. Since, in general, the children who drop out of school earliest are those who are seriously retarded and are found in the lower grades at relatively advanced ages, this fact is most important. It indicates that large numbers of these boys may be expected to leave school soon and go to work with an educational preparation so inadequate that they cannot enter the ranks of industry with profit either to themselves or to the community.

Another fact brought to light by this part of the investigation was that there is a wide range of conditions in the different cities. In those making the poorest showing, scarcely one in ten of these thirteen-year-old boys was in the seventh grade or above, while in the cities at the other end of the list eight boys out of every ten were within sight of completing the common-school course.

The lesson of these figures is that in many cities the problem of securing a reasonably complete elementary schooling for all the children is far more pressing than that of instituting specialized industrial training. The data show too that, since this has been accomplished by some of the cities, it may be hopefully undertaken by all.

Only one father in six now lives where he was born.—The next set of data secured give the birthplaces of these boys and their fathers. This inquiry showed that only about one father in six is now living in the city of his birth and that among the boys only a few more than one-half are now living where they were born. These facts are significant because it is often urged that the schools should develop courses of industrial education that will directly prepare the children to enter the local industries. But if present conditions maintain in the future, the great majority of adults are not going to work in the same communities in which they received their schooling.

Industries in which the fathers work.—Another portion of the investigation showed for each of the fathers the nature of the trade or business in which he was engaged and also what kind of work he was doing at that trade or business. The occupations of these fathers were studied in the hope that they might furnish an index to the sorts of life work that the young people now in city schools may be expected to go into. A double classification of the data was made first by industries and second by occupations within the industries. The industrial classification was the one adopted by the United States Census Bureau and included the following five main divisions:

I. Industries of Extraction—Agriculture, Forestry, Mining, etc.
II. Industries of Transformation—Building Trades, Manufacturing, etc.
III. Industries of Transportation and Communication—Railroads, Telegraph, etc.
IV. Industries of Trade—Wholesale and Retail Trade, Real Estate, etc.
V. Service—Government, Professional, Domestic, Personal, etc.

The tabulation of the returns showed that the fathers were distributed in these five main industrial divisions as follows:

TABLE I

INDUSTRIAL DISTRIBUTION OF FATHERS

Industrial Group	Percentage
Extraction	4
Transformation	52
Transportation	13
Trade	19
Service	12
Total	100

One surprising fact shown by these returns is that only about one-half of these men are found in the industries of transformation which include the building trades and all classes of manufacturing. This is important, because plans for inaugurating systems of vocational education are commonly based on the proposition that a large majority of the young people in our city schools will find their life work in these industries.

Occupations of the fathers.—The occupational classification of these workers was made under six heads, of which the first three relate to occupations primarily manual in nature, while the remaining three groups are primarily mental. The distribution of the fathers in these groups is shown in Table II.

TABLE II

OCCUPATIONAL DISTRIBUTION OF FATHERS

Occupational Group	Percentage
Unskilled laborers	4
Semi-skilled laborers and machine operatives	22
Artisans and industrial foreman	40
Clerks and salesmen	9
Managers, superintendents, and proprietors	21
Professional and financial	4

One-third in headwork, two-thirds in handwork.—Three significant facts are brought to light by the figures in Table II. The first is that more of these men are in professional work than there are engaged in unskilled labor. The second is that the group of managers, superintendents, and proprietors is practically as large

as that made up of semi-skilled laborers. The third is that the mental workers constitute more than one-third of all the workers.

Constant and variable occupations.—The analysis of the data concerning the industries and occupations by which these men earn their livings brought to light the significant fact that there are some occupations which are common to each community and which we may term "constant occupations." Other occupations are found in some localities and not in others, and these we may term "variable occupations." The constant occupations are those which are necessary to maintain the many branches of that enlarged municipal housekeeping which must go on wherever large numbers of people live together in one place. For example, house painting must be carried on in the city where the house is, while paint may be manufactured anywhere. The baking of bread must be carried on by each community, but crackers can be baked somewhere else and brought into the city.

In making our analysis of constant and variable occupations, we enlarged the scope of our inquiry so as to include all of the cities of the United States of more than 50,000 population. We discovered the facts concerning the number of people engaged in each of 140 separate occupations in each one of those cities. As a result, we found that there are 20 constant occupations in which the number of men workers is always at least equal to one for each thousand people in the population. We discovered, for example, that in any city in the United States of 50,000 population, you will always find more than 50 barbers, and that in the average city of that size you will find 150 barbers. It so happens that this is the most constant of all occupations, so that, if anyone knowing these facts had been able to foresee that Gary, Indiana, for example, would be a city of 40,000 population, he would have been able to prophesy ahead of time that the city would employ approximately 120 barbers. These constant occupations with the number of people engaged in them in the average city are shown in Table III.

It is almost certain that if these data were entirely up to date, two, and only two, additional occupations would be included in the list—those of stenographer-typewriter and chauffeur. These occupations include in the aggregate more than half of all the people

engaged in gainful occupations in all of our cities. These facts appear significant. They seem to indicate that if all other conditions are equal, vocational education should give preference to occupations that are everywhere constant over those that are not.

TABLE III

CONSTANT OCCUPATIONS IN CITIES OF 50,000 POPULATION AND OVER

Occupation	Average Number Workers per Thousand Population
Men—	
Bakers	2
Shoemakers	2
Street railway men	3
Plumbers	3
Barbers	3
Masons	4
Blacksmiths	4
Printers	4
Engineers	5
Waiters	6
Bookkeepers	6
Painters	7
Machinists	8
Steam railroad men	11
Carpenters	11
Salesmen	12
Teamsters	12
Clerks	15
Storekeepers	15
Laborers	37
Women—	
Housekeepers	2
Nurses	3
Laundresses	4
Saleswomen	4
Teachers	5
Dressmakers	9
Servants	25

Summary.—The findings that have been so briefly reviewed are preliminary and tentative. It is hoped that the studies now under way will produce results more final and definite in character. Meanwhile we believe that these studies already furnish material which should lead us to proceed with caution in our thinking and acting with respect to vocational education and vocational guidance. We may summarize our findings as follows:

1. A study including 22,027 thirteen-year-old boys in 78 city school systems shows that these boys are scattered through all of the grades of the school course from the kindergarten to the last year of the high school.

2. One-half of the boys are in the sixth grade or below. They need a common-school education more than they need specialized industrial training.

3. In some cities nearly eight of each ten boys were in the seventh grade or above, while in other cities only one boy in ten was in the seventh grade or above. What some cities have accomplished others may hopefully strive for.

4. Only one father in six was born in the city where he now lives, and only a few more than one-half of the boys were born where they now live. This has an important bearing on the proposition that the schools should shape their courses with the predominant aim of preparing the children to enter the local industries.

5. Only about one-half of the fathers are engaged in industries of the building trades and manufacturing.

6. More of the fathers are engaged in the professions than are in unskilled labor.

7. Mental workers constitute more than one-third of all the workers. This fact, and the two preceding ones, indicate the inaccuracy of the common generalization to the effect that only one child in ten in our public schools will find his life work in an intellectual occupation, while the other nine are destined to do handwork.

8. In American cities of 50,000 population and above there are twenty "constant occupations" in which the number of men workers is everywhere at least equal to one for each thousand in the population, and seven "constant occupations" in which the number of women workers is at least equal to one for each thousand people in the population. Other conditions being equal, vocational education and vocational guidance may well consider favoring "constant occupations" over localized ones.

REPORT OF EXPERIMENT ON THE VALUE OF PLAYS AND GAMES IN ARITHMETICAL DRILL[1]

PAULINE E. MATTHEWS
Los Angeles, California

The experiment which is reported in this paper was conducted by a student teacher and extended over a period of nine weeks. The grade was the Fourth "A." At the beginning of the work there were twenty children in the class. Soon after, six more entered, giving a total of twenty-six in the end. However, none of the data in this report, with the exception of the statement of the training-teacher, was taken before the entrance of the last six pupils.

The aim of this experiment was (1) to prove that more ground may be covered than is required by our course of study, (2) to determine the effects of plays and games in arithmetical drill.

The following is the statement of the teacher in whose room the experiment was conducted, as to the condition of the class at the time the work began and her general criticism of the work as conducted.

At the beginning of the last nine weeks the children knew their multiplication tables and the first case in long division. At the end of the eighth week they had completed long division and had started fractions as far as addition.

During this period all the children took an active part in the arithmetic games, which were carefully and skilfully carried out by the teacher in charge. The interest was keen and the children worked hard and cheerfully when a game was in view.

The period following was a period of relaxation. This was necessary in order to have the children ready for further work. I believe the arithmetic games are an excellent motive to interest children in arithmetic and to make the work seem alive to them. An increased efficiency in word problems was noticeable.

LILLIAN LOCKETT

[1] This experiment was outlined and supervised by Myrtie Collier, teacher of mathematics in the Los Angeles State Normal School.

The ground covered was the last half of Case 1 in long division, through long division to the addition of fractions. This was done in the time allowed by the course of study to drill in long division. During this period considerable work in word problems was taken up which was almost entirely a review and application of simple operations in the fundamental processes. When this work began, the class was doing long division problems in which the division was of two numbers, the first being greater than the second. At the close of the term they were able to handle any divisor consisting of two or three integers and seemed much more capable of handling word problems than formerly. In advance of this, which was the regular work for the Fourth Grade, they had acquired a good concept of fractions, were able to add fractions having the same denominator, and to multiply a whole number by a fraction.

The part of interest lies in the "how," rather than the "what," however, for the latter will vary according to the grade and locality in which one teaches. The work was accomplished by the use of plays and games with formal drill. In the nine weeks games were used seven times, which does not include two smaller play devices used in the more formal periods of drill.

The games were (1) the baseball game, (2) the "Santa Monica" Road Race, and (3) the "Grand Avenue Department Store." The play devices were a clock face with movable hands, for each child, and a card game. A description of the games follows.

BASEBALL

Preparation for the game.—

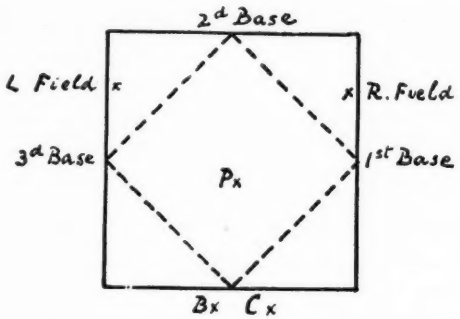
1. Selection and making two copies of problems, one for the pitcher, other for the umpire (teacher).

2. Choosing of team and team names by the children.

Scheme of game.—

Captains compete on problems to decide which team has first "bats." The first correctly finished wins "bats" for his team. Captains choose at signal, "Play ball." The successful captain then works on paper, competing with the batter at board, who is also competing with the catcher. If the batter is the first one

finished and correct, he passes on to "first," where he competes with the first baseman and the right fielder at the same time that another of his team is working at bats. If the batter is the first one finished and correct, he passes on to "first," where he competes with the first baseman and the right fielder at the same time that



another of his team is working at bats. If the batter is not the first one finished and correct, he has been put out. Three outs means change of team at bats and two changes make an inning. A "run" consists of a player having successfully passed the third base and counts 1 for his team.

COMPARATIVE TABLE

Table of Baseball	*Formal Drill*
(NUMBER OF PROBLEMS)	
Problem worked in game:	
First game = 7	Average = $8\frac{2}{3}$ problems per game
Second game = 9	
Third game = 10	
Problems in formal drill	Average = $4\frac{2}{3}$ per day

This means, of course, that $8\frac{2}{3}$ problems were correctly worked by *different* pupils, during the game, those who were running for their team, as opposed to an average of $4\frac{2}{3}$ for each child during the formal drill. However, by the time of the third game all the children were working all the problems, which gave each child ten problems during that hour.

ROAD RACE

Preparation: 1. Teacher.—

1. Selection of problems.

2. Selection of familiar names for stations.

3. Writing of problems on board (one or two) under name of each station.

4. Working of problems before class so that *all* the answers may be had at once.

5 (desirable but not necessary). Making of pennants, one for each child, a different color for each machine, each pennant bearing initial of his machine and his individual number. These are quickly and easily made from any art paper at hand.

Preparation: 2. Pupils.—

1. Choice of names for machines (one for each row).

2. Numbering down rows for individual machine's number.

Scheme of game.—

One of *each* kind of *machine* starts at *each* station. Work on paper. Take problems from board. As soon as anyone is finished he goes to the teacher who tells him if he is correct; if he is, he goes on to the next station to the right; if not, he goes back and works that problem over again. When he does get right he goes immediately to work on his new problem at the next station, and another machine of his same make takes his place at the old station. In this way the whole class is soon on the floor and at work. The score is made by the number of players on each side who complete the circuit, the machine having had the greatest number being accounted the winner.

When the game starts one will have as many as eighteen on the floor starting to work and inside of five minutes will be able to put on ten more, for the work in this game is very rapid. This is in the teacher's opinion the best way of keeping *every* child working *every* minute.

COMPARATIVE TABLE

Road Race v. *Formal Drill*

	Road Race	Formal Drill
Average No. problems correct	$4\frac{9}{13}$	$3\frac{25}{26}$
" " " incorrect	$1\frac{4}{13}$	$\frac{1}{26}$
" " " worked	$6\frac{1}{13}$	$4\frac{9}{13}$

It is shown here that the number of problems worked in the road race was greater, and that the number worked correctly was greater than on the day of the formal drill and that despite the fact that the degree of inaccuracy is greater on the day of the game. This inaccuracy is due, I believe, wholly to the fact that the children had not yet accustomed themselves to the excitement. The only criticism that might be offered here is that things move so rapidly that the teacher has no chance to give any individual help. Still, that also has its advantage, for it gives the child the chance to find his own mistakes and profit by them.

STORE

Preparation.—

1. To decide kind of store—grocery or department.
2. To have children bring things.
3. To have children make invoice, prepare store, and help them determine prices.
4. To prepare lists for the class's first trip to store.
5. To select clerks, bookkeepers, head bookkeeper, have children make signs, play money, and price lists for their customers. The latter are put on the board.

Scheme of game.—

Clerk makes sale, writes slip and duplicate. Slip goes to buyer and duplicate to bookkeeper who makes change and O.K.'s the slip. Buyers go in relays. When through making purchases or when told to take seat, buyers go "home," make out a statement of money on hand when game started, purchases made, total amount spent, money on hand at present. This shows whether they have accepted wrong change and if the clerks are making wrong change. They then figure out where the mistake was made and go back to that department and state their case. At the end of about twenty minutes' buying the store closes, the clerks begin putting away the goods, while the bookkeeper checks up his slips. He makes out a statement which he hands in to the head bookkeeper with his cash drawer, showing money in drawer at beginning of hour, sales made and amount, money in drawer at close of period. His account must balance. This is determined by the head bookkeeper, who

makes out the report of the store by departments and hands it into the manager (teacher). All reports go to the teacher.

This game is particularly valuable in teaching how to make a sales slip, beginning of bookkeeping, denominate numbers, i.e., money, linear measure, weights and values, practical fractions, etc.

To be able to tell the effect of this game one should use it for about a week at first, then omit it for six or seven lessons and repeat it. It was impossible to do this at this time, for the end of the year was at hand, so it was used on only two successive days. On both days the work went very well, but especially so on the second day. The storekeepers had learned to make the change for $12\frac{1}{2}$ cents or any sum with half-cents, on the first day, and the board price lists showed many articles on special sale at $7\frac{1}{2}$ cents, $12\frac{1}{2}$ cents, $87\frac{1}{2}$ cents, etc. As a whole the work was accurate and it was decidedly a success.

Probably the most noticeable effect of these games was the joy the children gained from the games which they carried over into the formal drills. They seemed to feel that since the games were "fun," all number work was, and they worked with a will. There was never a day after a game that I found the discipline at all difficult and never a game where the children seemed inclined to take advantage of their freedom. And they were *free*, they laughed and ran to their bases or stations, and jumped and clapped when their team or machine scored. There was nothing stiff or formal about the work.

The fact that the class went farther than the work assigned by the course of study, in even such a short time as was allowed for this work, proves the first point stated in the aim. In the second place, it is shown that *more work* and that *more accurate work* is accomplished through the use of plays and games as drill devices than by the ordinary methods of formal drill.

THE TEACHING OF HYGIENE BELOW THE HIGH SCHOOL

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I. THE FAILURE OF HEALTH INSTRUCTION IN THE GRADES

That the health instruction in the public schools has improved within the last few years is not to be doubted; but its effectiveness is still to be questioned. Dr. McMurray, a member of the Hanus commission which investigated the schools of New York City, found that the health instruction was wooden and far from practical.[1] Rapeer, who made a careful investigation of the educational hygiene in twenty-five leading cities, says of the teaching of hygiene:[2] "And yet the subject is a tail-end subject, little emphasized, and furnished with poor textbooks for the most part, and very frequently with poor teachers in the grades and high school. Colleges do not usually give credit for, nor demand a knowledge of, this vitally essential subject of health and how to get and maintain it, much to their disparagement, and consequently we find many schools almost entirely neglecting it."

The writer wishes to propose the following reasons for the failure of the teaching of hygiene in the grades below the high school:

1. The teachers as a class are not well prepared to teach hygiene. The training received in the normal schools has too often emphasized anatomy and physiology rather than hygiene. As a result the teachers are deficient in the right kind of knowledge. They have not yet learned to appreciate the importance of health instruction.

2. The psychology and pedagogy of hygiene have as yet not been worked out, because hygiene is really one of the newest subjects in the curriculum. The disadvantage of teaching hygiene rather than arithmetic is obvious when one considers the splendid devices

[1] Frank M. McMurray, *Elementary School Standards*, 1913 (World Book Co.), pp. 51–54, 148–54.

[2] *School Health Administration* (Teachers College, Columbia University), p. 25.

involving play and construction now in use in the teaching of arithmetic, and the dearth of these devices in the teaching of hygiene.

3. Many of the textbooks still in use devote altogether too much space to anatomy and physiology. Much of the material in these books is too difficult for children, and in some cases the way in which it is presented leads to prejudice against any further study of the subject. The writer has known of cases where the children referred to lessons in hygiene as "nasty." Such an attitude can scarcely be expected to inspire a love for health or result in hygienic practices. Fortunately there are a number of good books on hygiene that have recently appeared that could be put into the hands of children with profit.

4. The hygiene that has been taught has been too general and abstract and has aimed at knowledge rather than practice. For example, teachers often spend much time on the anatomy and physiology of the digestive system to the neglect of such topics as food values, the hygiene of eating, how to preserve food, how to keep it from becoming contaminated, etc.

5. The instruction in hygiene is not well organized through the grades, hence repetition and tedium both for teachers and for pupils are common.

6. The aims in teaching hygiene have not been clearly formulated. Few principals of the elementary schools have clearly in mind what results they ought to get by the time the children get through the eighth or ninth grade; consequently there has been little systematic planning for results.

7. The teachers do not like to teach hygiene. It is only natural to expect that such vagueness as to aims, values, and methods tends naturally to dull the teacher's zeal, spontaneity, and efficiency. She realizes her failures in teaching hygiene, has a hearty dislike for it, and slights the subject whenever possible.

The psychology and pedagogy of hygiene are still crude and unsystematic. This paper is written with the idea of helping hygiene to find itself by suggesting some principles for guidance. The brevity and scope of this paper make some of these assertions sound dogmatic. At best they can be regarded only as tentative.

The old-fashioned instruction has been a failure. We must have a program for further experimentation.

II. FUNDAMENTAL FACTS AND PRINCIPLES INVOLVED IN THE TEACHING OF HYGIENE

It is the belief of the writer that methods of teaching hygiene should take into consideration the following facts and principles:

1. *The fundamental aim in teaching hygiene should be the inculcating of habits necessary for health rather than knowledge.* It is better to have the habit of cleaning one's teeth than to have all the information on the teeth which is available. To make the instruction in hygiene really effective the teacher should have a good knowledge of the psychology of habit formation, and how to apply it. Whenever possible the instruction should be correlated with action. If, for example, the teacher wishes the children to clean their shoes when entering the schoolroom, she should see that a place is provided for that purpose, and she must then insist that the shoes be cleaned, until the habit has been gained.

2. The child has no appreciation for health which serves as a motive for future action.[1] In the stirring dramatic world in which he lives there is almost no inclination to consider the consequences of his behavior on health. To say to the small boy, "Now, Johnny, if you do not get plenty of fresh air, you will not be strong," has little or no effect on Johnny. He is concerned with his immediate world, and not with the problems that he is likely to have six months or ten years hence. Minor illnesses, which might be expected to serve as motives for action, are soon forgotten, and it is doubtful whether the more serious ones offer anything more than specific motives. The boy who is dangerously ill because of the eating of green apples may be forever cured of such action, but such an experience would not deter him probably from overeating.

3. Health being inadequate as a motive, one of the teacher's great problems is to discover motives that will be effective. What is going to happen in some far-distant time does not interest the child in the least. The younger the child, the truer this is. All the instruction must center around the child's interests. The child is

[1] See "Health Instruction in the Elementary School," *Teachers College Record*, May, 1912, pp. 10–14.

interested in the approval of the teacher, in activity, in competition, and in imitation. To such instinctive sources the teacher must turn for the forces which will assimilate her instruction, and make for action. To illustrate, a child may have no desire to keep his desk neat and clean but if there is competition among the pupils of a school he is likely to develop a new interest in the appearance of his desk.

4. Activity is one of the essentials for health. The first law of the child's nature is action. Every stimulus around him moves him to act. There is little use in telling children about the great need of exercise. The problem is to give the children plenty of opportunity to exercise so that this tendency may not atrophy. It needs also to be directed along the right channels. If the teacher gives the child opportunity to express his playful activities in the schoolroom and on the playground, she will have accomplished more than would have been possible through any amount of formal instruction. A permanent interest in physical activity, rather than knowledge, should be one of the goals of instruction.

5. The structure of the body—something which the child cannot see, and a knowledge of which is not necessary for the solution of his immediate problems—is not interesting. Before the child leaves the grades, he ought to have some kind of common-sense knowledge of how his body is made and how it works. Such knowledge should generally be free of technical terms, and should in every case be presented to satisfy his curiosity or to support his knowledge and practice of hygiene. The Gulick "Hygiene Series" (Ginn & Co.) presents in an interesting manner all the hygiene that the child needs to know.

6. There is grave danger in isolating the instruction in hygiene so that the child is led to think of hygiene as coming at a certain time of the day but having no further relation to his life-activities. The teacher should seize opportunities in other lessons to give information in hygiene and whenever there is occasion in the play or work of the pupils. Especially desirable is individual instruction when it is needed. The teacher who advises a pupil who is anemic to walk to school rather than to ride in a closed car, and who afterward follows this up to see that it is done, has no doubt

accomplished more for the good of the child than would have been possible through any given class instruction for a year.

7. In matters pertaining to hygiene children should be taught and be led to act for the good of the group. To obey the laws of health is desirable, not merely for one's own sake, but for the good of others. Mere word knowledge about such things is largely worthless unless children live it in the school. For example, children may and should be taught that there is danger in catching or communicating a disease through the common drinking-cup; but in addition to this the teacher must see that individual drinking-cups are provided and used. Every teacher should be able to teach children how to make a drinking-cup out of a piece of paper.

8. Instruction relative to the effects of tobacco and alcohol on the bodily health has probably accomplished but little. These topics when considered in the upper grades should emphasize particularly the economic and social loss to the person who has these habits. To tell boys that good football players do not smoke and that nobody who drinks can be an engineer or a conductor is probably more effective in influencing action than to show the boys pictures of ulcers in the stomach due to the excessive use of alcohol.

9. While a knowledge of sex hygiene is desirable for children, the ordinary teacher who has had no special scientific training, and has little or no sympathy with the matter, is not at all fitted to teach the subject with success, and the probability is that she may do more harm than good. The proper place for this instruction is in the home. Teachers should lend their influence toward the distribution of good literature on such instruction to parents, and toward the encouraging of meetings for parents where such matters can be talked over.

10. Instruction in hygiene to become effective must plan to make the pupil personally responsible. This responsibility cannot be expected unless the pupils are trained in habits that make for health. The school life of the child offers many opportunities for cultivating the right kind of action. Let us take a single example. Children who eat their midday lunches in the schoolroom are likely to leave much of the remains on the floor and desks. The teacher should insist on food remnants being properly taken care of until

finally, through pupil organization if necessary, pupil responsibility is assumed.[1] A schoolhouse and grounds that have been planned from the point of view of hygiene make it easier, of course, for the teacher to inculcate the right kind of habits. A poorly lighted, badly ventilated schoolroom, furnished with non-adjustable seats, and a muddy schoolyard do not make for good habits. An investigation of the rural schools of Worcester County, Massachusetts, conducted by the State Normal School at Worcester, shows that the hygiene and sanitation of these schools are deplorable. But even under the most unfavorable conditions, the ingenious and intelligent teacher can devise many ways for training the children in good habits.

11. In the selection of subject-matter, stress should be laid particularly on the most important health problems of the community. The teacher in the rural schools should lay particular emphasis on topics in rural hygiene, such as the "Danger of Infection from Surface Water, Springs," etc. A teacher in city schools would find topics like "Why It Is Better to Walk Short Distances Rather than to Take a Car" and "The Danger from a Leaky Gas Tube," etc., more valuable.

[1] For an illustration of this sort of training, see Hunter, "An Experiment in Student Control of School Sanitation and Hygiene," *U.S. Bureau of Education Bulletin*, 1913, No. 48.

[*To be continued*]

A STUDY OF RETARDATION AND CLASS STANDING ON THE BASIS OF HOME LANGUAGE USED BY PUPILS.—*Concluded*

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To eliminate as far as possible the effect of exceptional individual cases, and also the influence of special conditions that may have affected certain classes, the data presented for the separate grades of the various schools, in the preceding tables and charts, are combined in Tables IX to XV, and in Charts VI to XII.

All the pupils of each language group for each grade have been brought together. Grade I is represented by only one school. This has been presented in Table V and Chart I. Within these summarizing tables the extensions have been made exactly as in the preceding part of the study. The mode in age has been added.

There is again much variation. The English-speaking pupils rank well, but entirely fail to stand uniformly above the other groups. In Grade II they are surpassed in average by all the others, and in mode are equaled or passed by all. In Grade III they are surpassed in average by the Swedes only, and are equal with, or ahead of, all in mode. In Grade IV the Swedish group again excels, this time in both average and mode. In Grade V the Germans join the Swedes in averaging better than the English-speaking pupils. The Swedes alone pass the English in mode.

In Grade VI the Yiddish are ahead. The Italians, Jewish, Polish, and total foreign are behind the English, while the Swedes, Germans, and others are too few in number to be brought into the comparison. In mode the Jewish and Yiddish surpass the English, while the Polish fall behind. In Grade VII, on the contrary, the Polish forge ahead of all except the English in average, while the Swedish drop behind. The English excel in both mode and average.

In Grade VIII the Germans and Swedes stand better in average than the English, while the total foreign is the same until the third decimal place is reached. The Jews are not far behind in average, and stand with the English, Germans, and Swedes in mode.

As in the preceding charts, the numbers in parentheses before the names indicate the number of pupils in the respective groups.

CHART VI

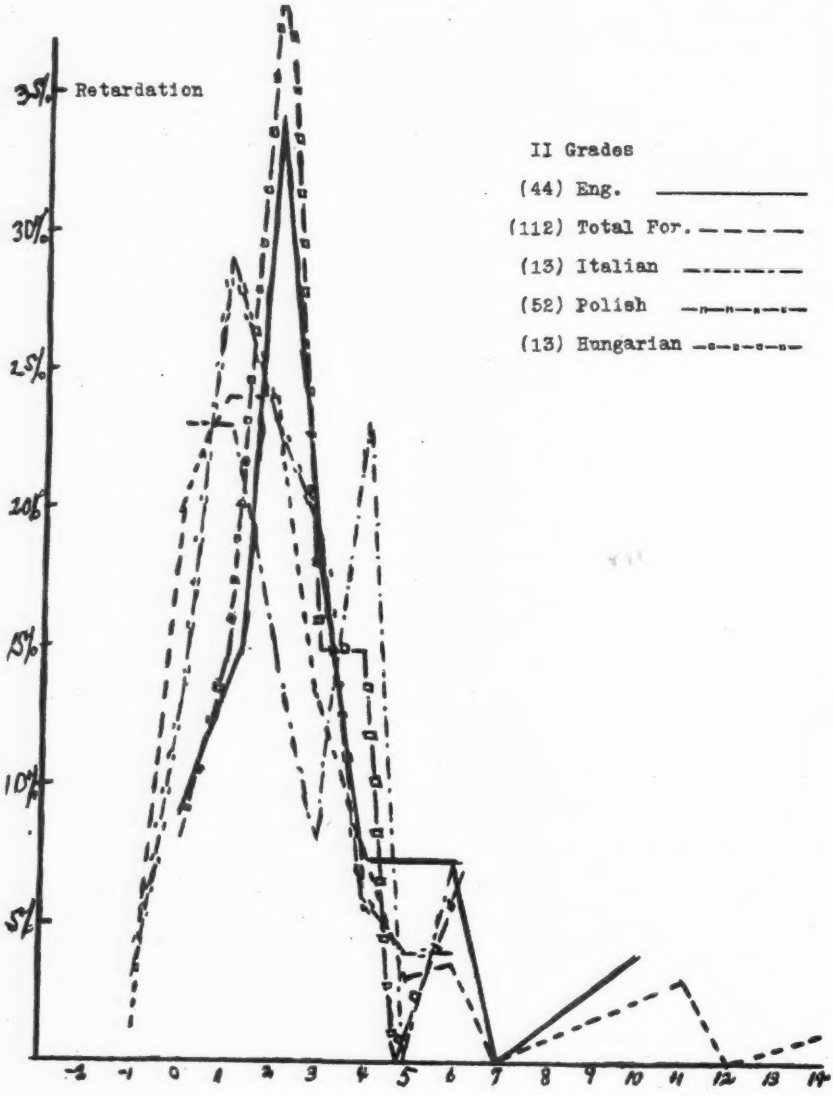

Retardation
35%
30%
25%
20%
15%
10%
5%
-2 -1 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
II Grades
(44) Eng.
(112) Total For.
(13) Italian
(52) Polish
(13) Hungarian

CHART VII

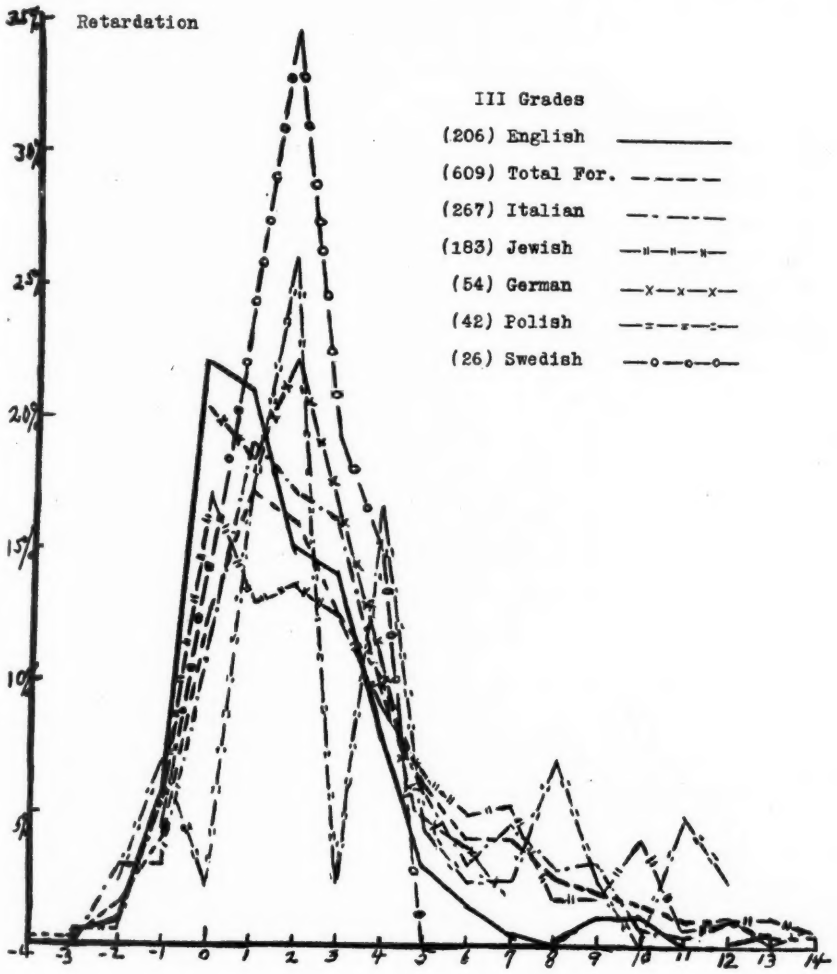

Retardation
III Grades
(206) English
(609) Total For.
(267) Italian
(183) Jewish
(54) German
(42) Polish
(26) Swedish
35%
30%
25%
20%
15%
10%
5%
-4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14

CHART VIII

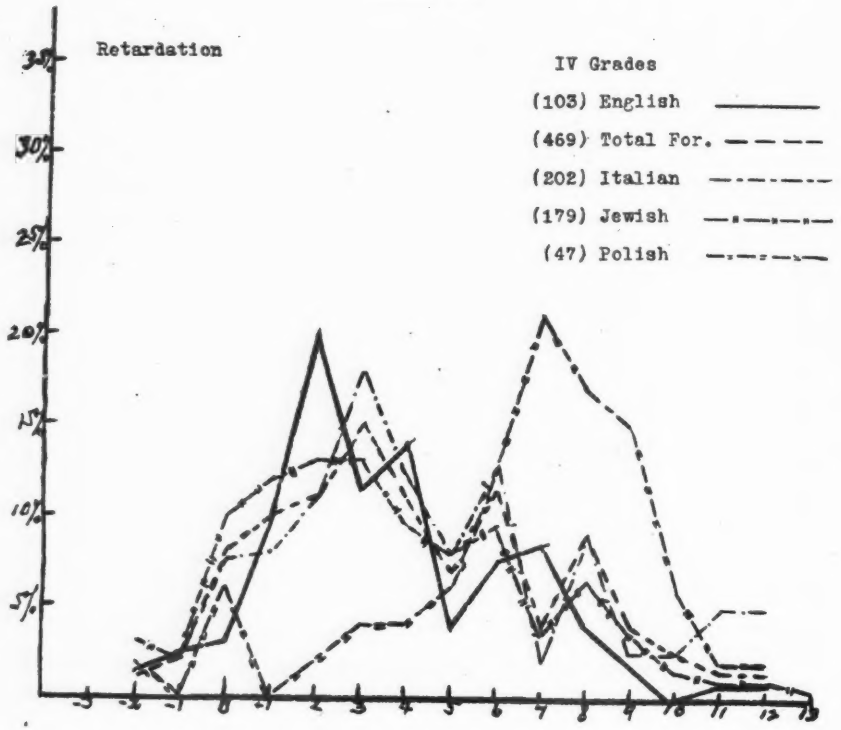

Retardation
35%
30%
25%
20%
15%
10%
5%
IV Grades
(103) English
(469) Total For.
(202) Italian
(179) Jewish
(47) Polish

CHART IX

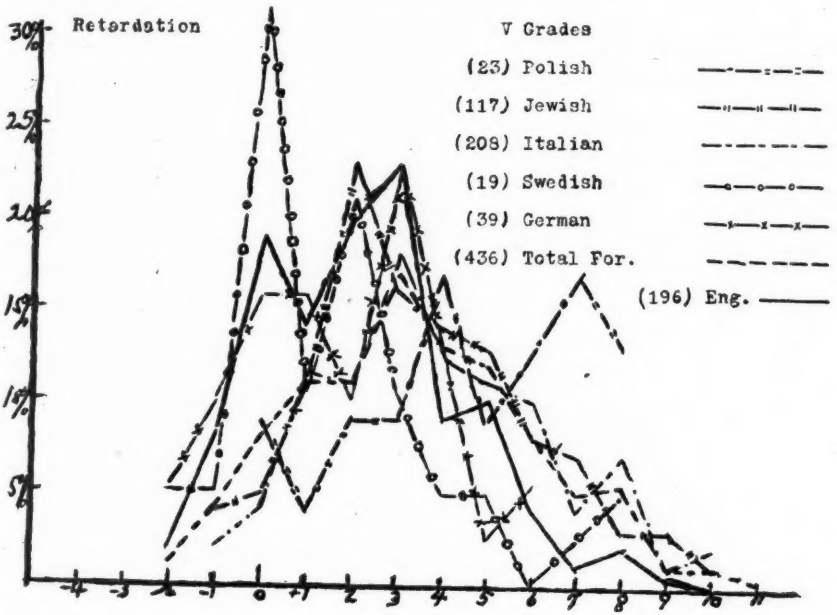

Retardation
30%
25%
20%
15%
10%
5%
-4
-3
-2
-1
0
+1
2
3
4
5
6
7
8
9
10
11
V Grades
(23) Polish
(117) Jewish
(208) Italian
(19) Swedish
(39) German
(436) Total For.
(196) Eng.

CHART X

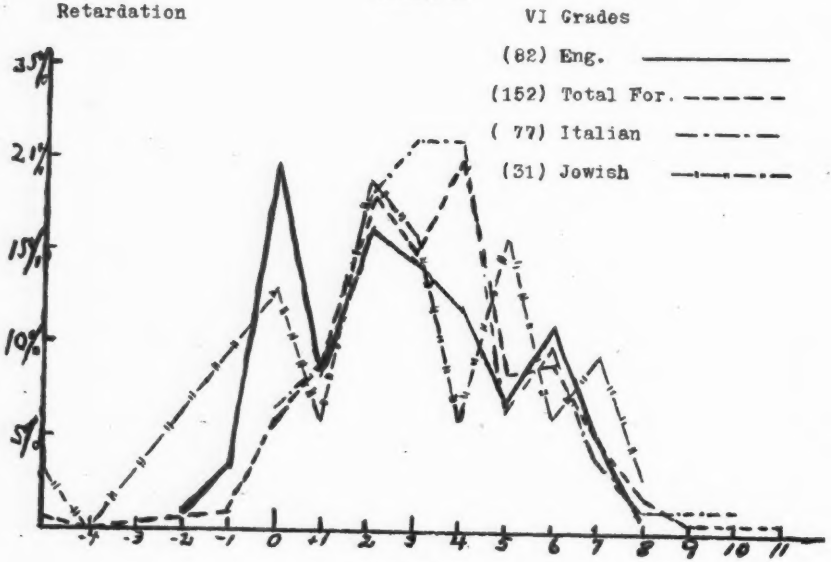


CHART XI

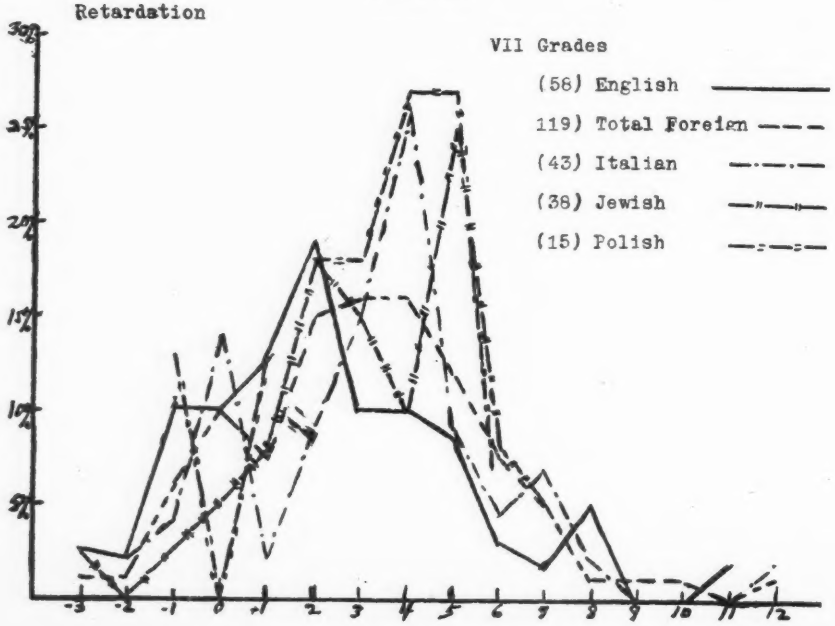


CHART XII

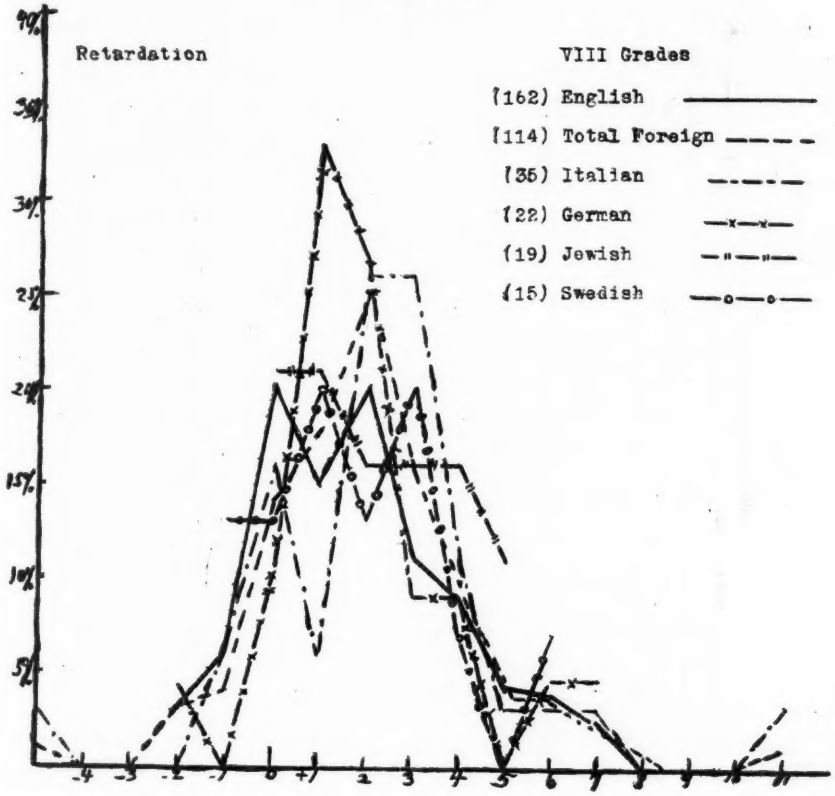

Retardation
VIII Grades
(162) English
(114) Total Foreign
(35) Italian
(22) German
(19) Jewish
(15) Swedish

TABLE IX

Combined Second Grades

Ages	Half-Years Under and Over Age	Polish		Italian		Hungarian		German		Slavish		Swedish		Jewish		Greek		Norwegian		Total Foreign		English Speaking	
		A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
		No. of Pupils	Total Half-Years Acc. and Ret.																				
6½	− 1	1	−1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	−1	....	....
7	0	7	....	3	....	1	....	3	....	2	....	2	....	4	....	....	....	....	....	22	....	4	....
7½	− 1	15	+15	3	+3	2	+2	1	+1	3	+3	3	+3	....	....	....	....	....	....	27	+27	6	+6
8	+ 2	12	24	2	4	5	10	3	6	1	2	....	....	2	4	1	2	1	+2	27	54	15	30
8½	+ 3	10	30	1	3	2	6	....	....	1	3	1	3	....	....	....	....	....	....	15	45	8	24
9	+ 4	3	12	3	12	2	8	....	....	....	....	1	4	....	....	....	....	....	....	9	36	3	12
9½	+ 5	2	10	....	....	....	....	....	....	....	....	1	5	....	....	....	....	....	....	3	15	3	15
10	+ 6	2	12	1	6	1	6	....	....	....	....	....	....	....	....	....	....	....	....	4	24	3	18
10½	+ 7	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
11	+ 8	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
11½	+ 9	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
12	+10	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	20
12½	+11	....	....	....	....	....	....	1	11	....	....	....	....	....	....	2	22	....	....	3	33	....	....
13	+12	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
13½	+13	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	14	....	....	1	14	....	....
Totals		52	102	13	28	13	32	8	18	7	8	8	15	6	4	4	38	1	2	112	247	44	125
Average ret. in half-years			1.96		2.15		2.46		2.25		1.14		1.87		0.67		9.5		2.0		2.2		2.84
Mode of ret. in half-years			2		1		2				1		1		0						1		2
Mode in age			8		7½		8				7½		7½		7						7½		8

TABLE X

Combined Third Grades

Ages	Half-Years Under and Over Age	Italian		Jewish		German		Polish		Swedish		Slavish	Hungarian	Dutch	Bohemian	Misc.	Total Foreign		English Speaking	
		A	B	A	B	A	B	A	B	A	B	A	A	A	A	A	A	B	A	B
		No. of Pupils	Total Half-Years Acc. and Ret.																	
6	− 4	1	− 4	....	....	....	....	....	....	....	....	....	....	....	....	....	1	− 4	....	....
6½	− 3	....	....	1	− 3	....	....	....	....	....	....	....	....	....	....	....	1	− 3	1	− 3
7	− 2	7	−14	1	− 2	....	....	1	− 2	....	....	....	....	....	....	....	9	−18	2	− 4
7½	− 1	8	− 8	11	−11	....	....	3	− 3	1	− 1	....	1	....	....	1	25	−25	12	−12
8	0	30	....	32	....	11	....	1	....	6	....	....	....	1	....	5	86	....	43	....
8½	+ 1	50	50	26	24	10	10	7	7	9	9	2	....	3	....	1	106	106	53	53
9	+ 2	45	90	25	50	12	24	11	22	5	10	....	2	....	....	....	100	200	32	64
9½	+ 3	43	129	23	69	9	27	1	3	4	12	1	1	1	....	3	86	258	30	90
10	+ 4	26	104	16	64	6	24	7	28	....	....	1	1	....	1	2	60	240	16	64
10½	+ 5	15	75	12	60	3	15	2	60	....	....	....	....	....	1	2	35	175	6	30
11	+ 6	8	48	9	54	2	12	1	6	....	....	2	....	....	....	2	24	144	3	18
11½	+ 7	12	84	10	70	1	7	1	7	....	....	....	....	....	....	1	25	175	1	7
12	+ 8	7	56	3	24	....	....	3	24	1	8	....	....	....	....	....	14	112	....	....
12½	+ 9	8	72	3	27	....	....	1	9	....	....	....	....	....	....	....	12	100	2	18
13	+10	2	20	7	70	....	....	....	....	....	....	....	....	....	....	1	10	100	2	20
13½	+11	1	11	1	11	....	....	2	22	....	....	....	....	....	1	....	5	55	....	....
14	+12	3	36	2	24	....	....	1	12	....	....	....	....	....	....	....	6	72	....	....
14½	+13	....	....	2	26	....	....	....	....	....	....	....	....	....	....	....	2	26	1	13
15	+14	1	14	1	14	....	....	....	....	....	....	....	....	....	....	....	2	28	....	....
Totals		267	763	183	571	54	119	42	145	26	38	6	5	5	3	18	609	1749	206	358
Average half-years of ret			2.86		3.15		2.2		3.45		1.46							2.87		1.74
Mode of ret. in half-years			2		1		2		2		1							1		1
Mode in age			9		8½		9		9		8½							8½		8½

TABLE XI

Combined Fourth Grades

Ages	Half-Years Over and Under Age	Italian		Jewish		Polish		Swedish		Slavish	Hungarian	German	Bohemian	Chinese	Persian	Danish	French	Greek	Total Foreign		English Speaking	
		A	B	A	B	A	B	A	B	A	A	A	A	A	A	A	A	A	A	B	A	B
		No. of Pupils	Total Half-Years Acc. and Ret.																			
8	− 2	....	....	5	−10	1	−2	....	....	....	....	....	....	....	....	....	....	....	6	−12	1	−2
8½	− 1	4	− 4	4	− 4	....	....	....	....	....	....	....	....	....	....	....	....	....	8	− 8	2	−2
9	0	15	....	18	....	3	....	....	....	....	....	....	1	....	....	....	....	....	37	....	13	....
9½	+ 1	16	+16	22	+22	....	....	5	+5	....	2	1	1	....	....	....	....	....	47	+47	10	+10
10	+ 2	23	46	23	46	....	....	4	8	1	....	....	....	1	....	1	....	....	53	106	21	42
10½	+ 3	40	120	24	72	2	6	1	3	1	1	2	....	....	....	....	1	....	72	216	12	36
11	+ 4	26	104	17	68	2	8	....	....	4	....	....	....	1	1	....	....	1	52	208	15	60
11½	+ 5	16	80	15	75	3	11	....	....	....	....	....	....	....	....	....	....	....	34	170	4	20
12	+ 6	27	162	17	102	6	36	1	6	1	2	....	1	....	....	....	....	....	55	330	8	48
12½	+ 7	4	28	7	49	10	70	....	....	....	....	....	....	....	....	....	....	....	21	147	9	63
13	+ 8	19	152	12	96	8	64	1	8	....	1	....	....	....	1	....	....	....	42	336	4	32
13½	+ 9	5	45	7	63	7	63	....	....	2	....	....	....	....	....	....	....	....	21	189	2	18
14	+10	5	50	3	30	3	30	....	....	....	....	1	....	....	....	....	....	....	12	120	....	....
14½	+11	1	11	2	22	1	11	....	....	....	....	....	....	....	....	....	....	....	4	44	1	11
15	+12	1	12	2	24	1	12	....	....	....	....	....	....	....	....	....	....	....	4	48	1	12
15½	+13	....	....	1	13	....	....	....	....	....	....	....	....	....	....	....	....	....	1	13	....	....
Totals		202	822	179	668	47	313	12	30	9	6	4	3	2	2	1	1	1	469	1954	103	348
Average ret. in half-years		4.07		3.73		6.66		2.5												4.1		3.38
Mode of ret. in half-years		3		2		7		1												3		2
Mode in age		10½		10		12½		9½												10½		10

TABLE XII

Combined Fifth Grades

Ages	Half-Years Under and Over Age	Polish		Jewish		Italian		Swedish		German		Yiddish	Hungarian	Bohemian	Slavish	Chinese	Russian	Lithuanian	Dutch	Misc.	Total Foreign		Total English Speaking	
		A	B	A	B	A	B	A	B	A	B	A	A	A	A	A	A	A	A	A	A	B	A	B
		No. of Pupils	Total Half-Years Acc. and Ret.																					
9.....	− 2	....	....	....	....	....	....	1	−2	2	−4	....	....	....	....	....	....	....	....	1	4	− 8	4	− 8
9½....	− 1	....	....	5	−5	5	−3	1	−1	4	−4	....	....	1	....	....	1	....	1	....	16	−16	15	−15
10.....	0	2	....	6	....	9	....	6	....	6	....	1	....	1	1	....	1	....	....	2	35	....	38	....
10½....	+ 1	1	1	13	13	26	26	2	2	6	6	....	....	....	....	....	....	....	....	1	49	49	28	28
11.....	+ 2	2	4	15	30	22	44	4	8	4	8	1	....	....	....	....	....	....	1	....	49	98	40	80
11½....	+ 3	2	6	19	57	38	114	2	6	9	27	....	1	....	1	1	....	1	1	....	75	225	26	78
12.....	+ 4	4	16	17	68	27	118	1	4	5	20	....	2	....	1	....	....	....	1	1	59	136	19	76
12½....	+ 5	2	10	16	80	33	165	1	5	....	....	1	....	....	....	....	....	....	....	....	53	165	10	50
13.....	+ 6	3	18	9	54	20	120	....	....	1	6	....	....	....	....	....	1	1	....	2	37	222	8	48
13½....	+ 7	4	28	8	56	9	63	....	....	2	14	....	....	....	....	....	....	....	....	....	23	161	2	14
14.....	+ 8	3	24	4	32	15	120	1	8	....	....	....	....	....	....	....	....	1	....	....	24	192	4	32
14½....	+ 9	....	....	4	36	2	18	....	....	....	....	....	....	....	....	....	....	....	....	....	6	54	1	9
15.....	+10	....	....	1	10	4	40	....	....	....	....	....	....	....	....	....	....	....	....	....	5	50	....	....
16½....	+13	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	1	13	....	....
18½....	+17	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	17
Totals.....		23	107	117	431	208	815	19	30	39	73	3	3	2	3	2	3	3	4	7	436	1565	196	392
Average ret. in half-years.....			4.65		3.68		3.87		1.58		1.87											3.30		2.0
Mode of ret. in half-years.....			7		3		3		0		3											3		2
Mode in age			13½		11½		11½		10		11½											11½		11

TABLE XIII

Combined Sixth Grades

Ages	Half-Years Under and Over Age	Italian		Jewish		Yiddish		Polish		Norwegian	German	Slavish	Swedish	Chinese	Albanese	Total Foreign		English Speaking	
		A No. of Pupils	B Total Half-Years Acc. and Ret.	A	B	A	B	A	B	A	A	A	A	A	A	A	B	A	B
9½	− 5	.....	.....	1	−3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	−3	.....	.....
10	− 2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	−2	.....	.....
10½	− 1	.....	.....	.....	.....	1	−1	.....	.....	.....	1	.....	.....	.....	.....	2	−2	3	−3
11	0	5	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9	.....	16	.....
11½	+ 1	7	+7	2	+2	5	+5	.....	.....	.....	1	.....	.....	.....	.....	15	+15	7	+7
12	+ 2	14	28	6	12	4	8	.....	.....	.....	2	.....	1	.....	.....	27	54	13	26
12½	+ 3	16	48	5	15	3	9	.....	.....	.....	.....	.....	2	.....	.....	26	78	12	36
13	+ 4	16	64	2	8	2	8	5	20	1	1	1	1	1	1	31	124	10	40
13½	+ 5	5	25	5	25	1	5	.....	.....	.....	1	1	.....	.....	.....	13	65	6	30
14	+ 6	8	48	2	12	2	12	2	12	.....	.....	.....	.....	.....	.....	14	84	9	54
14½	+ 7	3	21	3	21	1	7	1	7	.....	.....	.....	.....	.....	.....	8	56	4	28
15	+ 8	1	8	1	8	.....	.....	1	8	.....	.....	.....	.....	.....	.....	3	24	1	8
15½	+ 9	1	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	9	.....	.....
16½	+11	1	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	11	.....	.....
17	+12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	12	.....	.....
Totals		77	269	31	98	19	53	9	47	1	6	2	4	2	1	152	525	82	226
Average half-years of ret			3.49		3.23		2.39		5.22								3.44		2.73
Mode of ret. in half-years			3		2		2		4								3		3
Mode in age			12½		12		12		13								12½		12½

TABLE XIV

COMBINED SEVENTH GRADES

AGES	HALF-YEARS OVER AND UNDER AGE	ITALIAN		JEWISH		POLISH		SWEDISH		HUNGARIAN		GERMAN	SLAVISH	MISC.	TOTAL FOREIGN		ENGLISH SPEAKING	
		A No. of Pupils	B Total Half-Years Acc. and Ret.	A	B	A	B	A	B	A	B	A	A	A	A	B	A	B
10½	− 3	....	....	1	− 3	....	....	....	....	....	....	....	....	....	1	− 3	2	− 6
11	− 2	1	− 2	....	....	....	....	....	....	....	....	....	....	....	1	− 2	1	− 2
11½	− 1	2	− 2	6	− 1	2	− 2	1	− 1	....	....	1	....	....	7	− 7	6	− 6
12	0	6	....	2	....	....	....	1	....	....	....	2	....	1	12	....	6	....
12½	+ 1	1	+ 1	3	+ 3	2	+ 2	1	+ 1	1	+ 1	....	....	1	9	9	8	+ 8
13	+ 2	4	8	7	14	2	4	1	2	1	2	1	1	....	17	34	11	22
13½	+ 3	7	21	6	18	4	12	....	....	1	3	....	....	1	19	57	6	18
14	+ 4	11	44	4	16	4	16	....	....	1	4	....	....	....	20	80	6	24
14½	+ 5	4	20	9	45	1	5	....	....	....	....	....	....	....	14	70	5	25
15	+ 6	2	12	3	18	....	....	1	6	1	6	....	1	1	9	54	2	12
15½	+ 7	3	21	2	14	....	....	1	7	....	....	....	....	....	6	42	1	7
16	+ 8	1	8	....	....	....	....	....	....	....	....	....	....	....	1	8	3	24
16½	+ 9	....	....	....	....	....	....	....	....	....	....	....	1	....	1	9	....	....
17½	+10	....	....	....	....	....	....	....	....	....	....	....	....	1	1	10	....	....
18	+11	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	11
18½	+12	1	12	....	....	....	....	....	....	....	....	....	....	....	1	12	....	....
Totals		43	143	38	124	15	37	6	15	5	16	4	3	5	119	363	58	137
Average ret. in half-years			3.32		3.26		2.46		2.50							3.13		2.36
Mode of ret. in half-years			4		5		3									3		2
Mode in age			14		14½		13½									13½		14

TABLE XV

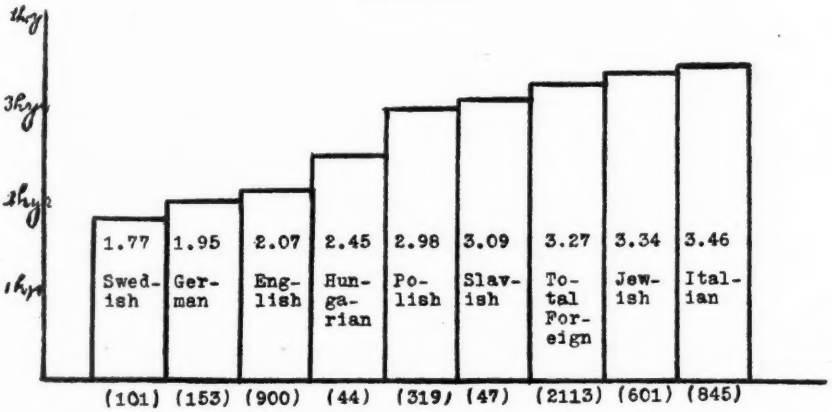
Combined Eighth Grades

Ages	Half-Years Under and Over Age	Italian		German		Jewish		Swedish		Polish		Dutch	Greek	Hungarian	Slavish	Misc.	Total Foreign		English Speaking	
		A	B	A	B	A	B	A	B	A	B	A	A	A	A	A	A	B	A	B
		No. of Pupils	Total Half-Years Acc. and Ret.																	
10½	− 5	1	−5	....	....	....	....	....	....	....	....	....	....	....	....	....	1	− 5	....	.....
12	− 2	....	....	1	−2	....	....	1	−2	....	....	....	....	....	....	1	3	− 6	5	−10
12½	− 1	2	−2	....	−2	....	....	2	−2	....	....	....	....	....	1	....	5	− 5	10	−10
13	0	....	....	2	....	4	....	2	....	1	....	1	1	....	....	1	16	.....	33	.....
13½	+ 1	2	+2	7	7	4	4	3	+3	1	1	....	1	1	....	2	21	+21	25	+25
14	+ 2	9	18	6	12	3	6	2	4	3	6	2	....	1	1	1	28	56	33	66
14½	+ 3	9	27	2	6	3	9	3	9	1	3	....	....	....	....	....	18	54	18	54
15	+ 4	4	16	2	8	3	12	1	4	....	....	....	....	....	....	....	10	40	14	56
15½	+ 5	1	5	....	....	2	10	....	....	....	....	1	....	....	....	....	4	20	15	75
16	+ 6	1	6	1	6	....	....	1	6	1	6	....	....	....	....	....	4	24	5	30
16½	+ 7	1	7	1	7	....	....	....	....	1	7	....	....	....	....	....	3	21	4	28
18½	+11	1	11	....	....	....	....	....	....	....	....	....	....	....	....	....	1	11	....	.....
Totals		35	85	22	42	19	41	15	22	8	23	4	2	2	2	5	114	231	162	334
Average ret. in half-years			2.43		1.91		2.16		1.47		2.87							2.063		2.061
Mode in half-years			3		1		1		1		2							2		1
Mode in age			14½		13½		13½		13½		14							14		13½

FINAL SUMMARY

Table XVI and Chart XIII give a summary of the final totals, bringing all the grades together for each group. The average retardation per pupil for each language group in the seven schools is thus found. In this final classification the Swedes stand at the top with an average retardation of only 1.77 half-years. The

CHART XIII



Germans come second with an average of 1.95. The English-speaking pupils rank third. These are followed in order by the Hungarians, Yiddish, Polish, Slavish, total foreign, Jewish, and Italian groups. The last has an average retardation of 3.46 half-years. In Chart XIII the Jewish and Yiddish groups have been combined.

ELIMINATION OF MIXED CARDS

Since pupils who gave "English and Swedish," "English and German," "English and Italian," and so on, for their home language were counted with the Swedish, German, and Italian groups, respectively, it was decided to test the German and Swedish groups to see what the effect of this had been. By eliminating these mixed cards the Swedish average was lowered 0.07, while the German average was raised 0.03. This factor thus proved entirely negligible.

TABLE XVI

General Summary

Grade	Italian		German		Swedish		Polish		Jewish		Yiddish		Slavish		Hungarian		Total Foreign		Total English Speaking	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
I	.....	.....	16	16	11	17	123	176	2	.....	.....	.....	15	38	19	11	177	253	49	45
II	13	28	8	18	8	15	52	102	6	4	.....	.....	7	8	13	32	107	207	44	125
III	267	763	54	119	26	38	42	145	182	571	2	8	6	20	5	10	585	1674	206	358
IV	202	822	4	17	12	30	47	313	179	668	.....	.....	9	45	6	25	459	1920	103	348
V	208	815	39	73	19	30	23	107	117	431	3	7	3	7	3	11	418	1781	196	392
VI	77	269	6	13	4	12	9	49	31	98	19	53	2	9	.....	.....	148	501	82	224
VII	43	143	4	1	6	15	15	37	38	124	2	4	3	17	5	16	116	347	58	137
VIII	35	85	22	42	15	22	8	23	19	41	.....	.....	2	1	2	3	103	217	162	334
Totals	845	925	153	299	101	179	319	952	575	1937	26	72	47	145	44	108	2113	6905	900	1963
Average ret. in half-years		3.46		1.95		1.77		2.98		3.37		2.77		3.09		2.45		3.27		2.07

CLASS STANDING

The total results for class standing are equally negative. Of the English-speaking pupils 67 per cent are in ranks E and G; of the German pupils, 62 per cent; of the Swedish pupils, 57 per cent; of the Hungarian pupils, 47 per cent; of the Italians, 56 per cent; of the Slavs, 52 per cent; of the Jews, 80 per cent; of the Poles, 55 per cent. These percentages are based on the class ranks in Schools A, B, and F.

HOME CONDITIONS

To separate further the language factor from other factors, the home conditions entered on the enrolment cards in School A have been arranged on a percentage basis for the various nationalities, with the following results:

TABLE XVII

	Percentage German	Percentage Swedish	Percentage Polish	Percentage Hungarian	Percentage English
E	.....	2.2	0.9	.....	4.13
G	50	66.7	24.7	17.8	52.07
F	40	28.9	59.7	50.0	39.67
P	10	2.2	15.0	32.1	4.13

Thus 50 per cent of the Germans are in home conditions that are good or excellent, 56 per cent of the English-speaking, 69 per cent of the Swedes, 26 per cent of the Poles, and only 18 per cent of the Hungarians.

If superior home conditions were assigned as the cause of the Swedes overcoming any language difficulty and surpassing the English-speaking pupils, the same reason could not be given for the Germans. Nor would it account for the average retardation of the Hungarians being but a trifle higher than that of the English-speaking pupils.

CONCLUSION

Summing up the whole investigation, we find that the language factor is not of sufficient importance to be considered as one of the causes of retardation, or as determining relative class standing of pupils.

A MEASURE OF PROGRESS IN THE MECHANICAL OPERATIONS OF ARITHMETIC

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It seems difficult to secure a measure which will allow a careful record to be kept of the progress of different pupils in the mechanical operations of arithmetic. A simple means is here suggested. The device is valuable for other purposes also, since it stimulates pupils to learn number combinations and helps to bring them up to a definite standard of efficiency.

All that is needed in the way of materials is a cord about four feet in length, a weight sufficiently heavy to serve as pendulum bob, and a support that will allow the pendulum to swing clear of the wall. Interest in the use of the device is easily aroused. The teacher suspends the pendulum, having its initial length such that it will vibrate slowly. By way of concrete example, let us consider its use in a fourth grade where the multiplication tables are still troublesome, and the simple number combinations are still unmastered. The pendulum is set in motion, at first at its maximum length, therefore at its maximum time periods. If the drill desired is in addition, let the teacher announce a *constant*, as six. After the class has the constant well in mind, some starting-point is announced, as nine. In concert the class gives the results of successive additions of six, starting with the base nine: "Nine, fifteen, twenty-one, twenty-seven," etc. It will be surprising how many drop out as the numbers grow larger. Here is a sifting process. If ~~this~~ were the only value, it might be worth while; but the greatest value of the device lies in the accurate measure of attainment at any period of arithmetical work. The pupils who drop out early in the concert recitation are urged to suspend such pendulums at their homes and drill themselves, shortening the pendulum as fast as possible. The *length* of the pendulum is recorded and furnishes a measure both accurate and universal in application.

It may appear to some that this is a mere drill device. It does furnish suggestions for different drills to the teacher of original mind, but the greatest value in its use is the accurate measure afforded of both class and individual advancement. If the drill be in subtraction, some such base as thirty-five is announced, with four as the constant to be subtracted. The recitation proceeds: "Thirty-five, thirty-one, twenty-seven, twenty-three," etc.

In multiplication this drill or test can be used in various ways. Only one will be given here. Let a constant, as eight, be announced. The pendulum is set vibrating slowly. As the bob reaches its left-hand limit the variables are announced by the teacher, the class giving the products as the pendulum approaches its right-hand limit.

The teacher will see many ways to vary the use of this simple device, both as a means for drill and as an accurate measure of results. The device has proved also to be a welcome aid in this part of arithmetic work which is so often a drag to the teacher and the grade.

BOOK REVIEWS

The School System of Norway. By DAVID ALLEN ANDERSON. Boston: Richard G. Badger, The Gorham Press, 1913. Pp. 232. $1.25.

The appearance of Dr. Anderson's book is very timely. Our pedagogical literature is well provided with comparative studies of education in foreign countries. Unfortunately, however, the Scandinavian countries have remained, if not entirely unrepresented, at least represented only by fragmentary and misleading accounts. This is greatly to be regretted, since we could not but have received stimulating impulses from these countries where general education is of such a high standard and which socially, morally, and politically are among the most progressive countries in the world.

By his very able and accurate presentation of the school system of Norway, Dr. Anderson has very satisfactorily supplied a part of this deficiency, and it is to be hoped that he may find occasion in subsequent volumes to deal with the school systems of the sister-countries, Denmark and Sweden.

Dr. Anderson's book contains a wealth of information, technical and general, presented in a direct and logical manner with the greatest possible clearness and a commendable brevity, characteristics which render his book especially convenient both for reference and for class use. Here and there in the interpretive conclusions one might have desired a little less brevity, since the pedagogical clear-sightedness and independence of views of which the author has manifested his capability render these conclusions very valuable.

The book is an interesting, stimulating, and reliable presentation of the educational tendencies in Norway.

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Animal Communities in Temperate America. By VICTOR L. SHELFORD. Chicago: The University of Chicago Press, 1913. Pp. xiii+362. $3.00.

Animal Communities in Temperate America is a serial account of the animal groups found in various spots about Chicago; it is just as true an account of those occurring in any similar district in the Northern United States or Southern Canada, and hence it answers many questions which have asked themselves of a great many people. Among the chapters are descriptions of certain economic phases and of the animal communities of large and of small lakes, of ponds, of streams, of forests, of thickets, and of prairies, and of their conditions and controlling factors. Although Dr. Shelford has taken the college viewpoint and has made his work most appealing to higher students, yet throughout there is a readableness, a simplicity of style, and a suppression of technicality which puts the book well within the comprehension of the general reader or even of high-school pupils.

In the description of conditions in a shallow lake one reads: "One of the most distinctive and characteristic forms of such lakes is a transparent true shrimp (*Palaemonetes paludosus*), about 2 inches long, which is a close relative of some of the edible

marine shrimps. In spring they are found carrying numbers of green eggs attached to the appendages of their abdomens. Another common animal in these situations is the large polyzoan (*Pectinatella magnifica*). This is a colonial form which reproduces by budding in several directions. It also secretes a clear and transparent jelly. As the number of animals increases, the amount of jelly increases on all sides and the animals are arranged on the outside of the more or less spherical mass of jelly; the necessary increase in surface for the growth of the colony is supplied through additional secretion by each new animal added. Some of these masses of jelly reach a size of 6 inches in diameter."

Again, quoting from the account of conditions in a hickory woods: "The walking-stick (*Diapheromera femorata*) is common on the tree trunks in the fall. The red oak supports the tree cricket (*Oecanthus angustipennis*), the stinkbug (*Euschistus tristigimus*), and the oak-leaf beetle (*Xanthonia 10-notata*). Felt records several insects injurious to the red oak alone. From the white oak we have taken the katydid (*Cyrtophillus perspicillatus*), the larvae of sawflies and moths (*Anisota senatoria*), and various galls. Several weevils occur on acorns, and the twig-borer (*Elaphidion villosum*) in the twigs. The hickory supports many larvae, including a *Phylloxera* which forms galls on the leaves.

"The red-tailed and red-shouldered hawks, the red-headed woodpecker, the wood-pewee, the crow, bluejay, robin, and bluebird nest in the trees. The panther and wildcat (*Lynx rufus*) were former residents."

Many nature students have long awaited such a work as this, for there is an ever-growing movement which reverts to Agassiz's outdoor laboratory for its material, its method, its inspiration. Dr. Shelford has furnished a text-manual for this work which can be appreciated only through first-hand perusal and by the nature-lovers who really want to know. "It marks an epoch in the study of life."

The illustrations are mostly half-tones; they are original, profuse, and well explained.

H. B. S.

SCHURZ HIGH SCHOOL
CHICAGO

BOOKS RECEIVED

AMERICAN BOOK CO., CHICAGO

Deutsche Lieder. By PETER SCHERER and LOUIS H. DIRKS. Cloth. Pp. 110. Price $0.25.

Peter and Polly in Winter. By ROSE LUCIA. Cloth. Pp. 160. Illustrated. Price $0.35.

EDWARD E. BABB & CO., BOSTON

The Ideal Sound Exemplifier. By a SISTER OF SAINT JOSEPH. Paper. Pp. 64. Price $0.15.

BOBBS-MERRILL CO., INDIANAPOLIS

Better Rural Schools. By GEORGE HERBERT BETTS and OTIS EARLE HALL. Cloth. Pp. 512. Illustrated.

T. Y. CROWELL & CO., NEW YORK

The Religious Value of the Old Testament. By AMBROSE WHITE VERNON. Cloth. Pp. 81. Price $0.90.

HOUGHTON MIFFLIN CO., BOSTON

Art Education. ("Riverside Educational Monographs.") By HENRY TURNER BAILEY. Cloth. Pp. 102. Price $0.60.

The Concrete and Practical in Modern Education. ("Riverside Educational Monographs.") By CHARLES W. ELIOT. Cloth. Pp. 57. Price $0.35.

MACMILLAN, NEW YORK

Intensive Studies in American Literature. By ALMA BLOUNT, PH.D. Cloth. Pp. 331. Illustrated. Price $1.10.

RAND McNALLY & CO., CHICAGO

The Teachers' Story Teller's Book. By ALICE O'GRADY and FRANCES THROOP. Cloth. Pp. 352. Price $1.00.

STURGIS & WALTON CO., NEW YORK

The Old Testament Phrase Book. By LOUISE EMERY TUCKER, M.A. Cloth. Pp. 148. Price $1.00 net.

Readings from the Old Testament. By LOUISE EMERY TUCKER, M.A. Cloth. Pp. 260. Price $1.25 net.

THE UNIVERSITY OF CHICAGO PRESS, CHICAGO

The French Verb: Its Forms and Tense Uses. By WILLIAM A. NITZE and ERNEST H. WILKINS. Paper. Pp. 40. Price $0.35.

UNIVERSITY OF MISSOURI, COLUMBIA

The University of Missouri Bulletin. Education Series. Vol. II, No. 1. Paper. Pp. 139.

WARWICK & YORK, INC., BALTIMORE

The Socialized Conscience. By JOSEPH HERSCHEL COFFIN. Cloth. Pp. 247. Price $1.25.

CURRENT EDUCATIONAL LITERATURE IN THE PERIODICALS[1]

IRENE WARREN
Librarian, School of Education, University of Chicago

(The) alliance between Harvard University and the Massachusetts Institute of Technology. Sci. Am. 110:81. (24 Ja. '14.)

(The) apprentice problem. Print. Art 22:361–2. (Ja. '14.)

Athletics and morals. An introduction. Atlan. 113:145–60. (Fe. '14.)
Stearns, Alfred E. Athletics and the school.
Stewart, C. A. Athletics and the college.

Balliet, Thomas M. Points of attack in sex hygiene. J. of Educa. (Bost.) 79:87–90. (22 Ja. '14.)

Boynton, F. D. "College domination" of the high school. Educa. R. 47:154–64. (Fe. '14.)

Bruce, H. Addington. New theories in education. Outl. 106:144–48. (17 Ja. '14.)

———. The boy who goes wrong. Cent. 87:542–46. (Fe. '14.)

Cattell, J. McKeen. Science, education and democracy. Science 39:154–64. (30 Ja. '14.)

Chadwick, F. E. The woman peril in American education. Educa. R. 47:109–19. (Fe. '14.)

Childs, W. L. How can physical training be made of greatest value to the high-school boy? School R. 22:103–5. (Fe. '14.)

Comstock, Sarah. Byways of library work. Outl. 106:201–5. (24 Ja. '14.)

———. The story corner. St. Nich. 41:308–13. (Fe. '14.)

Curtis, Henry S. Educational extension through the rural social centre. Educa. 34:283–94. (Ja. '14.)

Farrington, Frederic Ernest. A unique industrial school. Educa. R. 47:134–38. (Fe. '14.)

Fuess, Claude M. Phillips Academy, Andover, Massachusetts. School R. 22:73–81. (Fe. '14.)

Goldwasser, I. E. Shall elective courses be established in the seventh and eighth grades of the elementary school? Psychol. Clinic 7:205–21. (Ja. '14.)

Greenwood, J. M. Elementary schools and standards. Educa. R. 47:139–53. (Ja. '14.)

[1] *Abbreviations.*—Atlan., Atlantic Monthly; Cent., Century; Cur. Opinion, Current Opinion; Educa., Education; Educa. R., Educational Review; J. of Educa. (Bost.), Journal of Education (Boston); J. of Educa. Psychol., Journal of Educational Psychology; J. of Home Econ., Journal of Home Economics; Lit. D., Literary Digest; Liv. Age, Living Age; Outl., Outlook; Pop. Sci. Mo., Popular Science Monthly; Print. Art, Printing Art; Psychol. Clinic, Psychological Clinic; School R., School Review; Sci. Am., Scientific American; St. Nich., St. Nicholas; Teach. Coll. Rec., Teachers College Record; Train. School M. (N.J.), Training School Magazine (New Jersey).

Heck, W. H. Parents' part in school hygiene. Educa. R. 47:127–33. (Fe. '14.)

Herzberg, Max J. The educational value of a dramatic museum. Educa. R. 47:120–26. (Fe. '14.)

Inadequacy of scientific teaching in our schools. Lit. D. 48:199. (31 Ja. '14.)

King, Irving. Physiological age and school standing. Psychol. Clinic 7:222–29. (Ja. '14.)

Kohnky, Emma. Preliminary study of the effect of dental treatment upon the physical and mental efficiency of school children. J. of Educa. Psychol. 4:571–78. (D. '13.)

Kohs, Samuel C. The Binet test and the training of teachers. Train. School M. (N.J.) 10:113–17. (Ja. '14.)

McLaren, A. D. The German child in the German school. (With special reference to child-suicide in Germany.) Liv. Age 280:295–302. (31 Ja. '14.)

Maxwell, William H. On a certain arrogance in educational theorists. Educa. R. 47:165–82. (Fe. '14.)

Mitchell, H. Edwin. The distribution of high-school graduates in Iowa. School R. 22:82–90. (Fe. '14.)

Myers, G. W. A plan for testing methods of teaching secondary mathematics. School R. 22:91–97. (Fe. '14.)

Portland survey. J. of Educa. (Bost.) 79:63–64. (15 Ja. '14.)

Price, William R. One cause of poor results in modern-language teaching. School R. 22:98–102. (Fe. '14.)

(The) professorship of philosophy and psychology of Lafayette College. Science 39:164–68. (30 Ja. '14.)

Ruckmich, Christian A. Is myopia inherited or acquired? J. of Educa. Psychol. 4:593–606. (D. '13.)

Sanders, Frederic W. The organization of education. Educa. 34:273–82. (Ja. '14.)

(The) Society of College Teachers of Education. School R. 22:108–17. (Fe. '14.)

Strout, Joseph Woodbury. The rural opportunity and the country school. Pop. Sci. Mo. 84:176–83. (Fe. '14.)

(A) syllabus for a three-year high-school course in German. School R. 22:118–20. (Fe. '14.)

Thatcher, Oliver J. Educational reforms that set a whole state in turmoil. Survey 31:494–95. (24 Ja. '14.)

Thorndike, Edward L. The measurement of achievement in drawing. Teach. Coll. Rec. 14:1–39. (N. '13.)

Vaughan, Victor C. The doctor's dream. Science 39:149–54. (30 Ja. '14.)

Webster, Arthur Gordon. The physical laboratory and its contributions to civilization. Pop. Sci. Mo. 84:105–17. (Fe. '14.)

Wellman, S. T. The industrial need of technically trained men. IX. Sci. Am. 110:78. (17 Ja. '14.)

What a college year costs. Lit. D. 48:207. (31 Ja. '14.)

What America thinks of Montessori's educational crusade. Cur. Opinion 56:127–29. (Fe. '14.)

What kills the school children? Survey 31:514. (31 Ja. '14.)

Winch, W. H. Experimental researches on learning to spell. II. J. of Educa. Psychol. 4:579–92. (D. '13.)

Woods, Robert. College extension in domestic science. J. of Home Econ. 6:41–43. (Fe. '14.)